Volunteer Firemen

Professional Journal of the Volunteer Firemen's Section of the National Fire Protection Association

Volume 3, Number 7 **BOSTON, MASSACHUSETTS** **July, 1936**

Portland Flying Service

The wooden shingle roof conflagration of June 2, 1936 at Peak's Island, Maine, summer resort colony. The fire at the right was started by sparks on a wooden shingle roof from a burning dwelling two blocks away. Flying brands carried the fire for nearly a mile, singling out for ignition the relatively few wooden shingle roofs of the community. Thirty-five buildings were involved and eighteen were totally destroyed.

Flying Brands Again

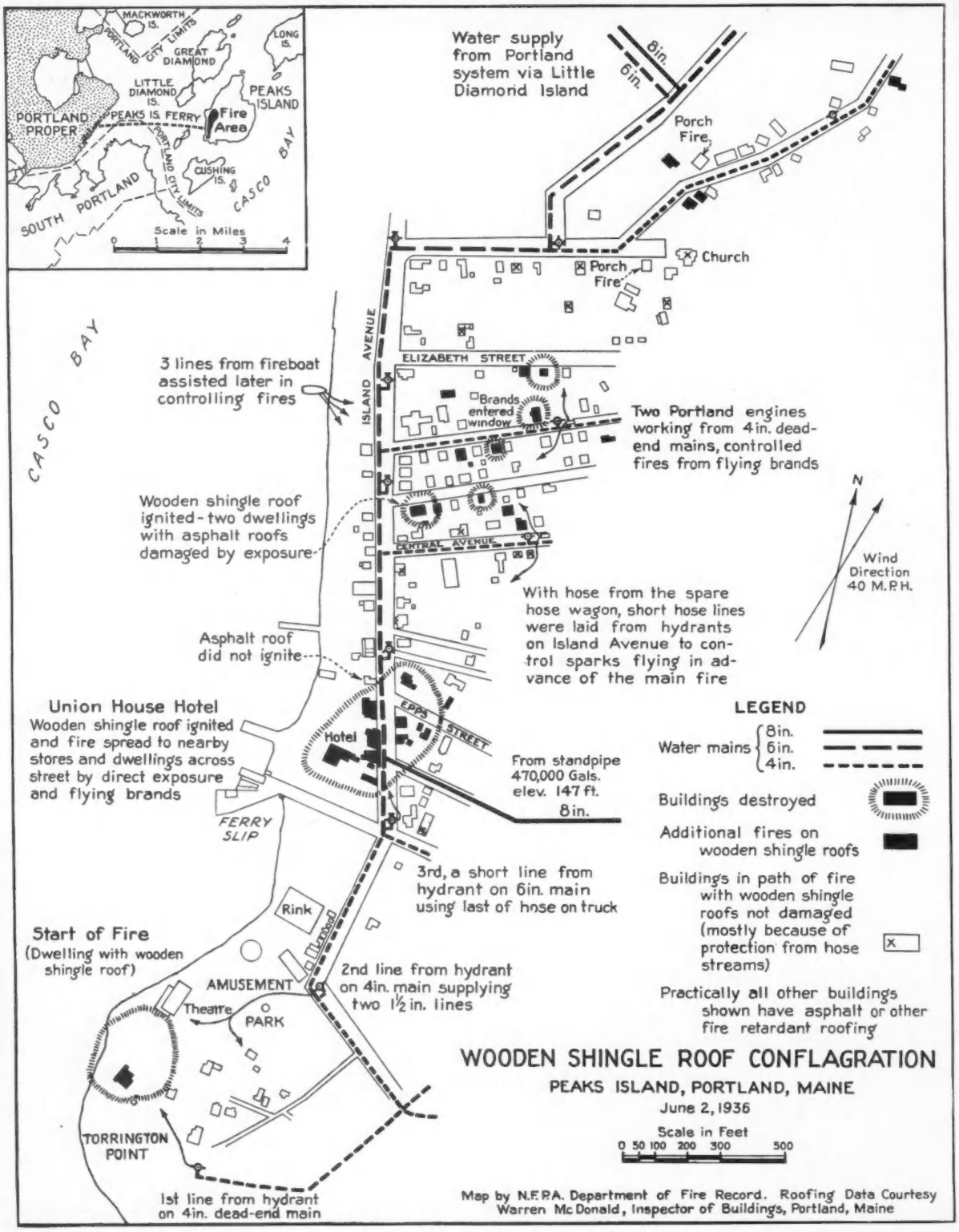
Wooden Shingle Roofs Were Mostly Gone as Result of Local Ordinance, But Enough Were Left to Cause General Conflagration at Peak's Island, Maine

THE City of Portland, Maine, in 1926 adopted an ordinance requiring that all roofs in the city be covered with fire-retardant roofing. Peak's Island, a summer resort community in Portland Harbor about three miles from the city proper, happens to be in the Portland city limits and therefore enjoyed the protection of this provision. To that largely may be attributed the fact that the conflagration which visited the community on June 2, 1936, involved only 35 buildings, instead of several hundred, and that the damage was only $75,000, instead of several hundred thousand.

The provisions of the local ordinance are such, that by 1938 it is expected that all old wooden-shingle roofs will be replaced by fire-retardant ones. The great majority of roofs in the area were already fire-retardant type. One resident, 86 years old, unable to protect his home, which was being showered with flying brands, sat across the street and watched the sparks roll from the asphalt roofing on his house. He said that the money spent for that roofing was the best investment he had made in his long life.

Enough wooden-shingle roofs were left, so that from a fire in a single relatively isolated dwelling, they enabled the fire to spread over a distance of nearly a mile. Flying brands, carried on a high wind, permitted the fire to jump great distances, singling out for destruction those buildings whose combustible roofs offered no ready resistance to ignition.

Peak's Island has a permanent population of about 500, but in the summer


MACKWORTH IS.
PORTLAND CITY LIMITS
GREAT DIAMOND
LONG IS.
LITTLE DIAMOND IS.
PEAKS ISLAND
PORTLAND PROPER
PEAKS IS. FERRY
Fire Area
PORTLAND CITY LIMITS
CUSHING IS.
CASCO BAY
SOUTH PORTLAND
Scale in Miles
0 1 2 3 4
Water supply from Portland system via Little Diamond Island
8in.
6in.
Porch Fire
Church
Porch Fire
CASCO BAY
ISLAND AVENUE
ELIZABETH STREET
3 lines from fireboat assisted later in controlling fires
Brands entered window
Two Portland engines working from 4in. dead-end mains, controlled fires from flying brands
Wooden shingle roof ignited - two dwellings with asphalt roofs damaged by exposure
CENTRAL AVENUE
N
Wind Direction 40 M.P.H.
With hose from the spare hose wagon, short hose lines were laid from hydrants on Island Avenue to control sparks flying in advance of the main fire
Asphalt roof did not ignite
Union House Hotel
Wooden shingle roof ignited and fire spread to nearby stores and dwellings across street by direct exposure and flying brands
EPPS STREET
Hotel
From standpipe 470,000 Gals. elev. 147 ft.
8in.
FERRY SLIP
3rd, a short line from hydrant on 6in. main using last of hose on truck
Rink
Start of Fire
(Dwelling with wooden shingle roof)
AMUSEMENT
Theatre
PARK
2nd line from hydrant on 4in. main supplying two 1½ in. lines
TORRINGTON POINT
1st line from hydrant on 4in. dead-end main
LEGEND
Water mains 8in. 6in. 4in.
Buildings destroyed
Additional fires on wooden shingle roofs
Buildings in path of fire with wooden shingle roofs not damaged (mostly because of protection from hose streams)
X
Practically all other buildings shown have asphalt or other fire retardant roofing
WOODEN SHINGLE ROOF CONFLAGRATION
PEAKS ISLAND, PORTLAND, MAINE
June 2, 1936
Scale in Feet
0 50 100 200 300 500
Map by N.F.P.A. Department of Fire Record. Roofing Data Courtesy Warren Mc Donald, Inspector of Buildings, Portland, Maine

this is nearer 5,000. There are about 1,000 buildings on the island. For fire protection there is a local fire company with 12 call men and four permanent men. Although under the general direction of the Portland Fire Department, other fire companies must make a 30-minute ferry trip to the island, so that the local company has to stand pretty much on its own feet. The company has a small automobile hose wagon and a fire station, and there is a spare hose wagon equipped for towing kept in a barn near the geographical center of the island. There is a good fire-alarm system. The water supply for the community is obtained from a six-inch and an eight-inch main laid across the harbor from the Portland city system. On the island there is a standpipe with a capacity of 470,000 gallons. This water supply has excellent pressure and fair capacity, but the street mains are nearly all six-inch and four-inch. A larger amount of the smaller size makes the water available for hose streams generally insufficient. In spite of these limited facilities the local fire company did intelligent and effective work.

One of the houses showered with flying brands in the Peak's Island fire. A large hole, shown covered, was burned in the wooden shingle roof. The rear section, newly roofed with fire retardent asphalt shingles was undamaged, as was the asphalt roof of the other home shown in the picture.

THE fire started in a vacant cottage on Torrington Point, possibly from sparks from a rubbish fire which blew under its porch. The cottage was securely boarded up and the fire was well under way when discovered. The fire company was called a little before 6 P.M. They sent a call for Portland's fireboat. This was, unfortunately, in drydock and low tide prevented its being launched until after 7 P.M. In the meantime Chief Oliver T. Sanborn responded with two pumpers, but these had to wait for the one ferryboat, then at Peak's Island.

These pumpers could not get to the island until after 7 P.M., so for over an hour the local fire company, with the aid of civilians, did their best to limit the spread of the fire. The company laid a first line from the nearest hydrant to the fire. This was on a long four-inch dead-end pipe, but served to protect immediate exposures.

There had been a long period of dry weather and a wind estimated to be in excess of 40 miles per hour was blowing. In immediate danger were various buildings of an amusement resort, the nearest a dance hall about 200 feet north. Fortunately no important buildings in or near the amusement park had wood shingle roofs. A second line laid by firemen fed two one-and-one-half-inch leader lines which were used to put out fires in the park set by sparks.

Meanwhile, brands carried on the wind had set fire to the wooden-shingle roof of the Union House, a frame hotel 1,200 feet north. A group of six adjoining store buildings and five buildings across the street caught fire, mostly by direct exposure, since the immediate facilities of the fire company were exhausted at the first fire. Only a short line of hose could be laid from a hydrant south of this fire.

Meantime, the lieutenant of the hose company had driven to the center of the island and secured the spare horse-drawn hose wagon there. Returning to Island Avenue ahead of the fire, he laid three lines of hose, about 250 feet each. These were taken down side streets by volunteers and civilians and the spread of fire stopped at this point.

The fire would have ended there but for the continued functioning of wooden shingles in their customary manner. Again the fire jumped over an area where hose streams were working and where most of the roofs were fire-retardant, to ignite houses two to five blocks further north. Between Central Avenue and Elizabeth Street, five dwellings were completely destroyed and roof fires on four others were extinguished with varying damage.

The accompanying diagram shows the progress of the fire by successive jumps as sparks carried the fire ahead of fire-fighting operations. The most remote shingle roof ignited was approximately 3,900 feet from the first fire.

Typical damage to wooden shingle roofs in the Peak's Island fire. Fire retardant roofs (asphalt shingles and roll roofing) on both sides were similarly exposed to flying brands but were unharmed.

Hitches for Hoisting

Good Ties Are Those Which Can Be Quickly Made, Will Hold Securely, and Will Get Tools Up and Down Safely

YOU don't have to be a Tom Mix or a Buck Jones to be able to make the rope hitches which are the basis of craftsmanlike fire-fighting operations. The ones most commonly used are easy to make and are shown in the illustrations on this and the following page. If one of the boys is on the roof of a building and wants an axe or some other tool in a hurry, you won't fumble in trying to secure it to the hoisting rope if you know your business. Nor would you use a slipshod tie that will allow the axe to get loose on the way up and perhaps bounce off your head.

Expertness in making the proper ties can come only from practice. That is one reason why rope work is emphasized to beginners in fire training schools and why many departments devote drill sessions in wet or cold weather to indoor practice in making the proper hitches for handling tools on hoisting ropes.

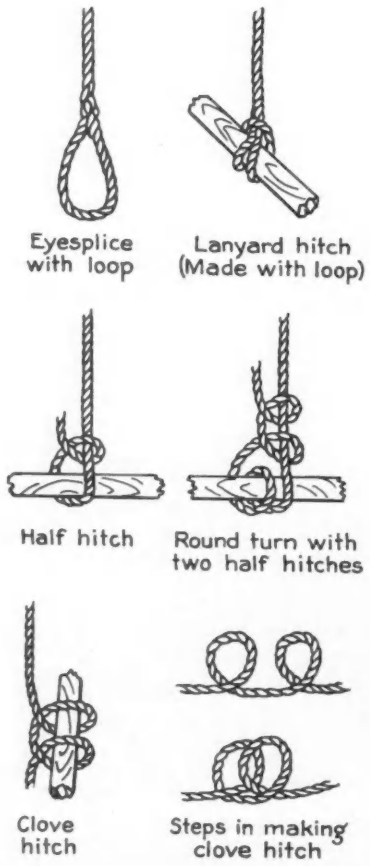
The first requirement of a good hitch is simplicity; it must be easy and quick to make and as readily untied. Above all it must hold securely so that the tool may be speedily hoisted or lowered with complete safety to those who may have to be below it.

The proper hitch to use in a given case is learned from experience. The ones illustrated are those which experience has shown to be most useful. Practically all the ties needed for ordinary fire-fighting operations are variations of just four basic hitches: the lanyard hitch, half hitch, round turn and half hitch, and the clove hitch.

Rope commonly used in hoisting operations is three-strand manila hemp. The size and length varies in different departments, but diameters from ½ in. to ¾ in. and lengths of 75 ft. to 125 ft. are the most common. A hoisting rope is standard equipment on practically all kinds of apparatus. The hose roller or hose hoist is an important accessory. In addition to protecting hose from damage in being dragged over cornices and other sharp edges of buildings, the rollers are a convenience in hoisting operations and afford protection to the rope.

An eyesplice (with a loop about 8 in. in diameter) in one end of the hoisting rope is provided in many fire departments for the convenience it affords in making a number of useful ties. The loop may be slipped over an axe handle as illustrated, brought around the head, and with a half hitch on the handle completes a satisfactory tie. This same method may be employed with a shovel, sledge or similar tool. A twist of the loop where it passes around the head of the tool as illustrated in the case of the sledge tends to prevent the head slipping out of the loop. The eyesplice and loop is shown as an essential component of ties for hoisting an uncharged line with nozzle attached, a playpipe, a pike pole and a ladder.

If smooth rope ends are preferred, a bowline knot can serve in the same manner as the eyesplice. A bowline is illustrated in a tie for a ladder. (This knot should be next to the wall of the building when hoisting and on the outside when lowering so that the ladder will hang at an angle and clear window ledges and other obstructions.)



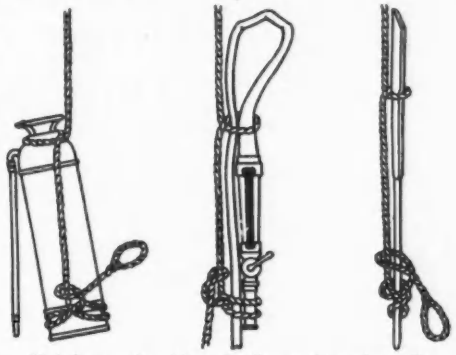
Ties which can be made at any point in a hoisting line (the ends of which may not be free) are the most useful. The second axe tie shown (an adaptation of a slip-knot), and the fourth, can be made in the middle of a line.

The clove hitch is the basis of many ties which can be used in the middle of a line. A clove hitch has been thrown around the base of the extinguisher illustrated, the tie being completed with a half hitch binder and a half hitch around the top. The binder may be omitted if there is a second tool to be attached below. The application of a clove hitch is shown in two situations on an uncharged line with playpipe and nozzle attached. In one case it shows the method for hoisting (the nozzle pointing downward to prevent its injury). The playpipe end is folded back on the line a few feet and tied there with a clove hitch around the nozzle, a half hitch around the folded end of hose completing the tie. In another illustration a clove hitch is thrown around the nozzle shutoff to hold the assembly while it is lowered. The clove hitch is also shown on a crowbar.

The half hitch is not a true knot in itself, but serves as a binder to make the hitch more secure in a number of ties. It is employed in two half hitches, in connection with one or more turns around an object and with other knots like the clove hitch as a binder. Two half hitches are shown on the handles of the sledge and shovel. Many firemen prefer two hitches instead of the one shown on the axe ties. With two or more round turns the half hitches are shown on the hose roller or hoist, and on the coil of booster hose.

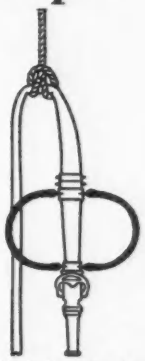
One or more half hitches are shown as binders on the clove hitches used as ties on the extinguisher, for hoisting a dry line with nozzle attached, for lowering an uncharged line, and on the crowbar.

Methods of Attaching Hoisting Ropes to Tools



Hoisting: extinguisher, dry line, and crowbar. Clove hitch with half hitch binders.

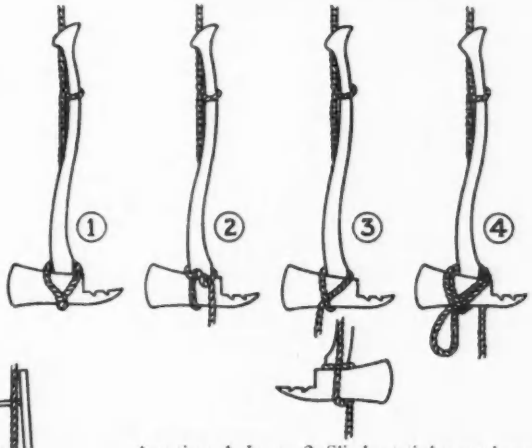
Lowering dry line, clove hitch around shut-off, with binder.



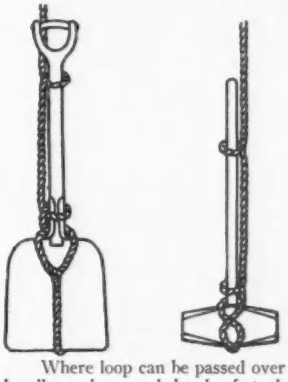
Hoisting dry line, lanyard hitch.

Lowering play-pipe, lanyard hitch with half hitch under shut-off.

Pike pole, lanyard hitch.

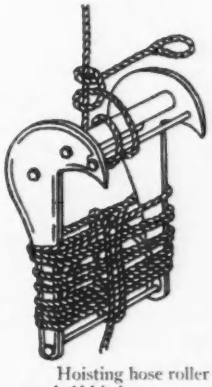


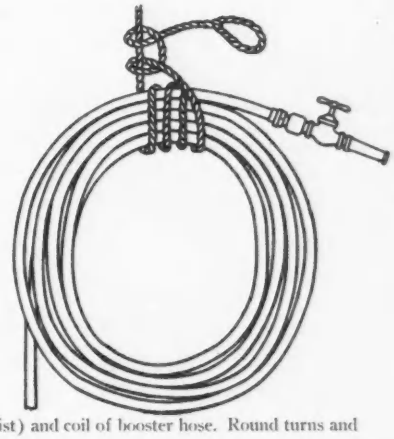
Axe ties: 1. Loop. 2. Slip-knot tied around axe handle, pick through loop of knot 3. One of the best and most widely used axe ties. 4. Same, with doubled rope.



Where loop can be passed over handle and around head of tool. Twisting loop (as shown on sledge) adds to security of tie.

Ties for ladders: bowline knot, and loop. Ladders should hang at slight angle to help in clearing obstructions. The bowline tie is made about ⅓ distance from top of ladder.





Hoisting hose roller (hoist) and coil of booster hose. Round turns and two half hitches.

In the preparation of these sketches and the accompanying discussion, material obtained from the following sources was used: Instruction Sheets by R. B. Criswell, Ohio Inspection Bureau; Fire Department Drill Evolutions prepared by the Fire School Committee of the Kansas State Firemen's Association; Notes by Harry K. Rogers, Western Actuarial Bureau; and Instruction Sheets on Knots and Hitches for Firemen's Training Classes in Massachusetts as prepared by Captain R. W. Bolster and Lieutenant B. E. Cardinal, drillmasters of the Springfield Fire Department.

Electric wires on poles ordinarily present little or no hazard to firemen handling hose streams from the ground.

Electrical Dangers

Hose Streams May Hit Most Wires Without Injuring Fire Fighters But Other Situations Involve Hazard

WHILE fighting a residence fire in a small town in California, 15 firemen got severe jolts of electricity which made them all drop their nozzles, axes, and hooks. Water was running in rivulets around the hose, and when a 220-volt electric line sagged into the water the charge was conducted to the men, but fortunately no lives were lost.

In another case, one fireman was electrocuted and ten others were stunned when a high-voltage wire fell into a pool of water in which they were standing and fighting a fire in a furniture store. The man who lost his life fell headlong into the pool and his head struck the wire. The others received such a shock that they dropped their lines and ran for safety.

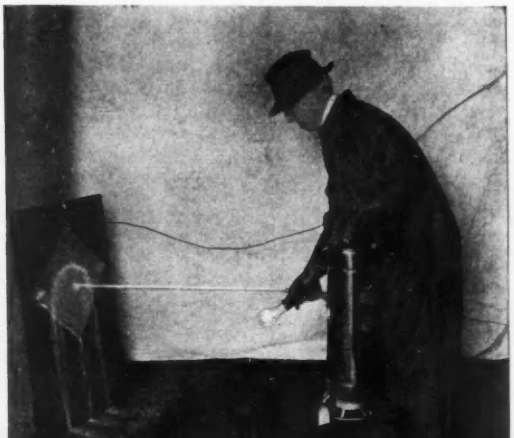
An airplane became entangled with wires of an electric power line, and crashed. One passenger received a fatal shock. A mechanic was electrocuted when he directed a stream from a soda-acid extinguisher on the resulting fire. A bystander attempted a rescue by grabbing the mechanic's feet, but he too received a fatal shock.

These examples illustrate how hose streams may carry dangerous electrical currents. Streams from extinguishers using water solutions are also good conductors of electricity. Tests on both hose and extinguisher streams have been made which show that while electrical hazards of fire fighting are only moderately serious, the degree of danger in a given situation should be recognized.

It is usually best to make electrical equipment dead before projecting water on it. However, there is ordinarily no danger to firemen from playing hose streams on low-voltage circuits. Although electrical equipment should always be approached carefully during a fire, owing to the possibility of some electrical breakdown imposing an abnormal voltage, the danger to firemen lies primarily in accidental physical contact with live wires or equipment, or stepping in pools of water which are electrically charged. Various experiments show that there is little danger in playing hose streams on electrical equipment under ordinary conditions. Pure water has relatively high resistance, but under some conditions may conduct dangerous amounts of electric current through a solid hose stream. Beyond the point where the stream breaks, little or no current will be carried, as the separate drops of water do not give a continuous electrical path. Streams from large nozzles conduct more current than from small nozzles, because the conducting stream of water is larger.

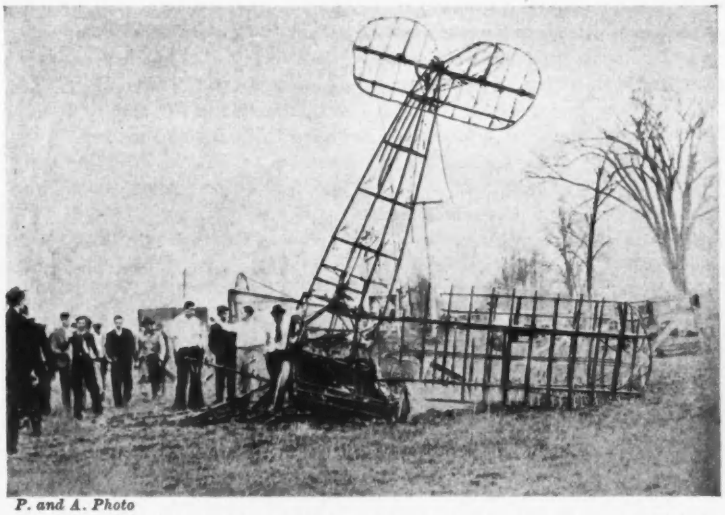
Streams from large nozzles also conduct electricity for greater distances from the nozzle, because the solid stream carries farther before it breaks. Increase in pressure above that normally used for a given nozzle decreases the distance, because the higher pressure makes the stream break nearer the nozzle. While it is the amount of current, rather than the voltage, that determines the personal hazard, higher voltages are more dangerous because with a given resistance the current is proportionately greater.

People react differently to electric current, and there is some controversy as to the exact amount of current which is dangerous. Professor F. C. Caldwell of Ohio State University says that a current of .02 (or 1/50) ampere conducted through a hose stream begins to make a person uncomfortable, and that a current of 0.1 (or 1/10) ampere may be dangerous. Many authorities consider that a current of .05 ampere pass-



Factory Mutual Record

Testing the electrical conductivity of fire extinguisher streams. At close range these streams may conduct enough current to seriously shock the operator.



P. and A. Photo

When this airplane fell into high tension wires, one passenger lost his life by direct contact with the charged metal frame, and two other men were electrocuted as a result of using soda-acid extinguishers on the burning ruins.

ing through the human body is about the lower limit likely to cause death.

The following table gives the minimum distances between a 1⅛-inch nozzle and live electrical equipment to avoid danger of fatal shock to the fireman holding the nozzle.

Voltage	*Distance in Feet*	
	Fresh water	Sea water
1100	6	25
2200	11	25
6600	19	30
11000	20	30
22000	25	30
33,000	30	35

From one series of tests with small hose streams it was concluded that ¼ in. streams could be operated safely 15 ft. away from live electrical apparatus which might be struck accidentally; and for ⅜ in. streams, 20 ft. away.

Tests have also been made which show that the stream from a calcium chloride extinguisher will conduct a small current 6 ft., soda-acid stream 4½ ft., foam 5 in., and water 2 in. Vaporizing liquid type extinguishers (carbon tetrachloride) and inert gas types (carbon dioxide or dry chemical) are safe at all distances, since their discharges are non-conducting.

These tests and practical experience demonstrate that:

1. There is small danger in fighting fire in the vicinity of electrical equipment with any form of extinguisher, unless the stream actually hits live parts of the equipment.

2. On live apparatus itself, water, soda-acid, calcium chloride, or foam will cause arcing and may produce short circuits which would seriously damage the apparatus.

3. When these extinguisher streams are used at close range, they may conduct enough electric current to shock the operator sufficiently so that he would stop fighting the fire. Above 550 volts, the results might be fatal.

It is not good practice to use soda-acid, calcium chloride, foam, or loaded-stream type extinguishers on fires in electrical equipment unless water is not available, because these liquids deposit salts which damage windings and laminations. If necessary to use them, owing to lack of proper extinguishing agents, the current should be cut off before attempting to put out the fire.

Fire departments find it to their advantage to co-operate with the local electric light and power company whenever high-tension wires hamper fire-fighting operations at a fire. In many cities a man from the power company responds to alarms to shut off the current where lives are endangered. In some cases this would not be wise. For example, in Hull, Massachusetts, a few years ago, fire destroyed five excursion steamers at their pier. The spread of this fire and the loss of $750,000 was largely due to the fact that the electric-light department shut off the current to the electric fire pump supplying the only hose stream with water.

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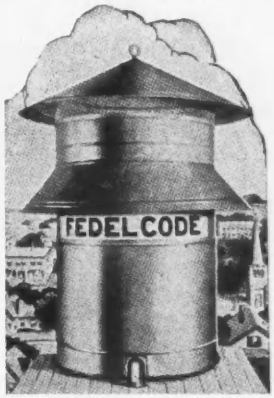

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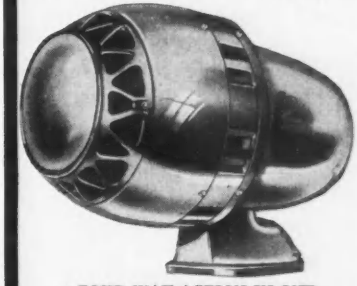

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Volume 3 **July, 1936** Number 7

Volunteer Firemen as a Reward The magazine, VOLUNTEER FIREMEN, is used as an incentive for good work by the volunteer fire department of Kenmore, N. Y. The department has three separate written examinations covering the tools and equipment of the department. Those members who successfully pass the three examinations receive copies of VOLUNTEER FIREMEN regularly without charge. Others in the department who want copies of the magazine are obliged to pay the regular fee of fifty cents a year therefor. Fire Marshal Kirsch of Kenmore reports that this plan works very satisfactorily and that the department has found subscriptions to VOLUNTEER FIREMEN well worth while in maintaining interest and increasing knowledge of the department.

Fireman Prevents Serious Explosion Lightning recently struck a 250,000 gallon gasoline tank in Somerville, N. J. It opened up a six-foot seam in the overlapped metal folds along the top of the tank. A fire started and was fed by fumes from the 110,000 gallons of gasoline in the tank.

The plant superintendent, who was also an officer of the local volunteer fire department, scrambled up the 40-foot iron ladder on the side of the tank just as the fire department reached the scene. Taking off his raincoat, he fanned the blaze with it. In four minutes the fire was out, and a serious explosion was prevented.

In the meantime he had shouted to the other firemen to keep their hose streams off lest the water expand the crack and cause more fumes to escape. This brave volunteer said that he figured there wasn't any great danger of an explosion while he was on the tank because the internal pressure was keeping the fire from getting into the tank.

A Liberal Education in Easy Doses If you have been a conscientious reader of VOLUNTEER FIREMEN, you have absorbed practical and up-to-date information on such subjects as:

Arson Investigation
Barn Fires
Chimney Construction
Drill Towers
Electrical Hazards
Fire Department Organization
Grass Fires
Hose Layouts
Inspection Work
Junior Fire Brigades
Kitchen Range Burners
Ladder Evolutions
Mutual Aid
Nozzle Pressures
Oil Fires
Pumper Suction
Qualifications for Volunteers
Records and Reports
Salvage Work
Training Schools
U. S. Fire Losses
Ventilation
Wooden Shingle Roof Hazard
X-Ray Film Storage
Y Connections
Zero Weather Hazards

These things are the ABC's of what a volunteer fireman has to know. They are only a partial list of the subjects covered by VOLUNTEER FIREMEN. Read your copies regularly and tell your brother firemen to do likewise. The knowledge you gain from VOLUNTEER FIREMEN may sometime save your life or prevent a conflagration.

A Sectional Appeal The enthusiastic response we have had from the fire service to the Volunteer Firemen's Section of the National Fire Protection Association makes us wonder why a few territories should be backward in this respect. A conspicuous case is the group of southeastern states—Georgia, South Carolina, Florida, Alabama and Mississippi. Copies of this issue of VOLUNTEER FIREMEN are being mailed to all the fire departments in those states. We want to know why we haven't had a better response from the Southeast. If VOLUNTEER FIREMEN is of value to firemen in Maine, Illinois, Oregon, and Texas, it ought to be of value to firemen in the Southeast. How about it?

Threshing Fires in Ontario W. J. Scott, fire marshal of Ontario, reports that there were 91,000 barn fires in the province last year, and that a large percentage of them were caused at threshing time. He suggests that before assisting at threshing bees, men should remove all matches, pipes, cigarettes, and tobacco from their pockets to reduce the possibilities of fires from these causes. Mr. Scott also suggests licensing of threshing machines.

New Members and Renewals During the past month 276 firemen from the 14 fire departments listed below enrolled in the Volunteer Firemen's Section for the first time. In addition, 443 men from 20 companies or departments sent in their renewals. The total membership is now 10,339.

Chilliwack Volunteer Fire Department, Chilliwack, British Columbia.
Lombard Fire Department, Lombard, Illinois.
Ridgefarm Fire Department, Ridgefarm, Illinois.
Bayard Fire Department, Bayard, Iowa.
Wall Lake Fire Department, Wall Lake, Iowa.
Calais Fire Department, Hose 1 and 2, Calais, Maine.
Dover-Foxcroft Fire Department, Dover-Foxcroft, Maine.
Swampscott Fire Department, Swampscott, Massachusetts.
Runnemede Fire Company No. 1, Runnemede, New Jersey.
Du Pont Fabrikoid Fire Department, Newburgh, New York.
North Sea Fire Department, Southampton, New York.
Waynoka Fire Department, Waynoka, Oklahoma.
Vermont Marble Company, Proctor, Vermont.
Delafield Fire Department No. 1, Delafield, Wisconsin.

Problem Questions
FOR JULY

Suggested for discussion at company and department meetings this month

41

What must firemen know in order to accomplish an effective and safe job of ventilation?

42

What can firemen do in sprinklered properties before, during and after a fire to reduce losses from fire and water?

Watch for the answers in the next issue of VOLUNTEER FIREMEN

Discussion Subjects

MATERIAL for answering these questions each month is summarized from the best practices of fire departments throughout the country and from standards and regulations drawn up by technical committees of the National Fire Protection Association. Ideas for answering question 39, for example, were taken from material prepared by the fire department instructor of the Ohio Inspection Bureau, the supervisor of firemen training classes in Massachusetts, the Western Actuarial Bureau, and the fire school committee of the Kansas State Firemen's Association.

Many firemen have written that they were making good use of this question and answer section at their regular meetings or training classes.

39

Q. How are the rope hitches for hoisting fire tools and equipment to upper stories or roofs of buildings made?

A. The basic hitches generally used for hoisting are illustrated and explained on page 4. These are the lanyard hitch which is made from the loop at the end of a rope, the half hitch, the round turn and half hitch, and the clove hitch.

See page 5 for illustrations showing the applications of these hitches to tools and equipment.

40

Q. What can be said about safe distances between hose nozzles and live electrical equipment if fatal shocks to firemen handling the streams are to be avoided?

A. Tests on hose streams and extinguisher streams show distances from electrical equipment that firemen handling the nozzle should keep in order to avoid dangerous shocks. For example, when using a stream of fresh water from a 1⅛-inch nozzle near a live 33,000-volt line, there is no danger beyond 30 feet from the wires.

See pages 6 and 7 for a complete discussion of the relative dangers of using the various types of streams on electrical equipment.

The "Instant" Fyr-Fyter
(ANTI-FREEZE)

1. **It operates at 40° below zero.**
2. **It extinguishes fires in Oils, Paints, Grease, Gasoline, etc.**
3. **It kills fires in Wood, Rubbish and other ordinary combustibles with a suddenness never seen before.**

The "Instant" operates upon inversion. The Karbaloy is expelled by a CO_2 gas cartridge.

The action of "Karbaloy" on a fire is unlike that of any other fire extinguishing medium. On fires in wood, excelsior, etc., the effect is sudden. The fire is killed almost instantly. This is illustrated by the fact that a standard test fire at Underwriters' Laboratories is extinguished by the "Instant" Fyr-Fyter in from 9 to 11 seconds, while the regular 2½-gallon Soda-Acid device requires from 30 to 40 seconds to extinguish this fire. The action of "Karbaloy" on oil fires is rather peculiar. The fires goes out rather suddenly, yet there is no noticeable smothering vapor present. Does not require annual recharging. Write for catalog showing complete line.

NOTE: We need more county "Dealers" to look after the increased demand for our Products. If you are looking for a good business opportunity write a letter giving us some details of past experience, etc.

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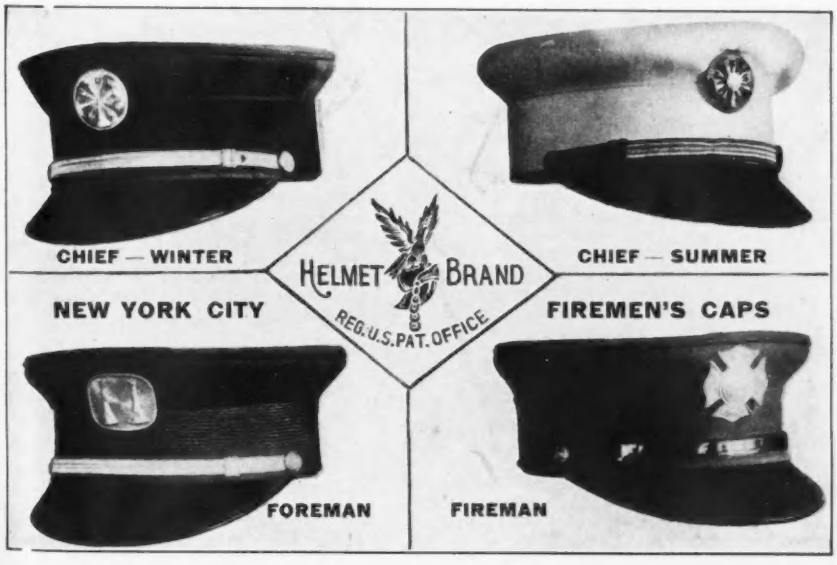

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Can You Use Ten Dollars?

If You Can, Submit Your Story in Pyrene Letter Contest—Cash Winners This Month

SEND in your story. It may win a prize next month. This contest is sponsored co-operatively by the Pyrene Manufacturing Company of Newark, N. J., and VOLUNTEER FIREMEN to bring out the lessons which may be learned from actual fires, and to stress the value of fire extinguishers as a means of saving life and property.

FIRST PRIZE — $10.00

ERNEST A. TAYLOR, *2nd Engineer,*
Fire Department, Oceanside, Calif.

Each Extinguisher Has Its Uses

"Not long ago a motorist stopped at a local garage to have the gasoline tank drained and the gasoline line cleaned. The mechanic ran the car over the pit and, taking an extension light with him, went down into the pit to remove the plug from the bottom of the gasoline tank. He had drained about a gallon of gasoline into a five-gallon can when the extension light fell and the bulb broke, igniting the gasoline.

"He was slightly burned before he got out of the pit. He grabbed the nearest fire extinguisher, a soda-acid type. (There was also a foam-type extinguisher in the garage.) Of course this only spread the fire and did very little toward extinguishing it. Seeing that it was a waste of precious time, and that something had to be done quickly, he pushed the car out of the garage into the street. A bystander assisted him and both men received first-degree burns.

"When the fire department arrived, the gasoline tank and the rear end of the car were ablaze. Gasoline that was running out the hole in the bottom of the tank was carrying fire toward the gutters, where several cars were parked. This was in the main business section of town and there was a gasoline service station within 80 feet of the burning car. The firemen realized the danger at once, and by the use of two two-and-one-half-gallon foam-type extinguishers they soon had the fire out. Comparatively little damage was done to the car and what could have developed into a very serious fire was averted.

"About this time someone said that there was a fire still burning in the pit. One of the firemen took a two-quart carbon tetrachloride extinguisher from the truck and rushed into the garage. A few strokes of the pump and this fire was out.

"If the mechanic had used the foam-type extinguisher in the beginning, the probabilities are that he would have extinguished the fire without moving the car, and he and the bystander would not have been burnt. This brings out the point again that each type of extinguisher has its place in fire fighting and that the carbon tetrachloride and foam types are exceptionally effective on gasoline and oil fires."

SECOND PRIZE — $3.00

JOHN DUNCAN, *Captain,*
Volunteer Fire Brigade, Oakville, Ont.

Three Extinguishers Save College

"During the winter of 1935 our brigade received a call to a fire at Appelby Boys College, which is two miles from the town limits. When we arrived we found that the roof on the west side of the three-story building had been burning near the chimney for some time before being noticed by a student.

"The only water supply available was Lake Ontario, a distance of 3,000 feet from the building. Four students had raised a ladder to the roof and had the fire under control by using two soda-acid fire extinguishers. We used one more soda-acid extinguisher. In my opinion, the three extinguishers saved a building which cost $70,000 to build."

THIRD PRIZE — $2.00

GEORGE W. SLOANE, *1st Lieutenant,*
McDonald Hose Co. No. 2, Sidney, N. Y.

"Things Sure Looked Bad"

"I am the proprietor of a service station, and a short time ago a car backed into one of my gasoline pumps, knocking it over. Upon hearing a crash, I ran to the door, getting there just as the pump hit the ground.

"In going over, the electric wires shorted, and instantaneously the gasoline ignited. The cylinder of the pump was full of gasoline, and the hose furnished fuel for a quick, hot blaze. Gasoline spread over quite an area of ground and was blazing fiercely.

"I have two one-quart carbon tetrachloride extinguishers in my station and my first thought was to grab one. I rushed out with one in my hands. The fellow who backed into the pump was naturally excited. I told him to send in an alarm, for things sure looked bad. I went directly to the pump and played the extinguisher on the blaze. I saw that the contents was not going to cover the entire area, so I sent for the second extinguisher that hangs in the station. The second one finished the blaze.

"My filling station has a garage attached, constructed of wood. There is no question in my mind but that my damage would have been considerable had it not been for these two extinguishers. The damage was confined to the gasoline pump."

HONORABLE MENTION

E. C. FAIL, *Pipeman,*
Fire Department, Riverside, Illinois.

ROBERT E. WHITELAW, *Driver,*
Volunteer Fire Department,
North Belle Vernon, Pennsylvania.

JOHN ROY PEEKE, *Chief,*
Fire Department, Sturgis, Michigan.

Rules . . .

PYRENE PRIZE LETTER CONTEST

1. Contestants in the Pyrene Prize Letter Contest must be members of their local fire department.
2. Letters are to describe actual experiences where any approved fire extinguisher of any make has saved lives or property.
3. Trade names may be used but will be deleted in publication. Publishers reserve the right to edit winning letters to permit publication.
4. Each contestant automatically vouches for the truth of the facts presented from his own or others' experience.
5. Only one letter may be submitted each month.
6. Letters must be legibly written in ink or typewritten on white paper, one side only. Preference will be given to letters not over 250 words in length.
7. Letters received after the 8th of the month will be judged in following month's competition.
8. Monthly prizes in cash will be: 1st, $10.00; 2nd, $3.00; and 3rd, $2.00.
9. Address contest letter to Pyrene Prize Letter Contest, National Fire Protection Association, 60 Batterymarch St., Boston, Mass.

Making a Good Job of It

By Warren Kimball

In this column each month an experienced volunteer fireman discusses the handling of a typical fire. Readers are invited to describe fires which illustrate one or more principles of craftsmanlike fire fighting. (Names and places may be omitted.)

PROMPT response to alarms has always been considered an indication of a well-organized and efficient fire department. The following fire is an actual instance where a life was saved by having at least one piece of apparatus manned and ready to respond without waiting for the firemen to respond to the fire station from their homes. A number of progressive volunteer fire departments are providing bunks so that members can take turns sleeping at the fire station in order to avoid delay in answering night alarms. Such a provision is particularly desirable in severe weather, but "bunking in" should be encouraged at any time.

Fire Chief Kersey of the volunteer fire department of Butler, Mo., knowing the importance of prompt response to night alarms, made arrangements to have four men sleep at the fire station each night last winter. It was the chief's contention that the two or more minutes that are usually lost while the firemen are reporting for duty are the ones in which lives and property are lost. Loss of life seldom occurs after firemen arrive at a fire.

At 5:15 on the morning of February 15, when the thermometer stood at 5 degrees below zero, an occupant of a two-story frame house located at the town's limits arose to rekindle a fire in the stove in his room. In order to speed the process he poured kerosene on the fire. An explosion resulted, setting the man's clothing aflame. He managed to reach the kitchen, which adjoined his room, while his wife ran to a near-by neighbor's house to give an alarm.

Fire Chief Kersey and four men who were sleeping at the station responded with a booster tank truck. When they reached the fire, they heard cries coming from the kitchen. While the men used the booster line to extinguish the fire, the chief made his way through the smoke-filled rooms to the kitchen, where he found the man badly burned. The injured man was removed to a hospital and although severely burned he was soon recovering satisfactorily.

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There are positive reasons why Buckeye Shut-off Nozzles will not leak: (1) The distinctive design; (2) The high-grade workmanship. Buckeye Nozzles will not open or close under pressure when valve is partially shut down — yet shut-off works easily. The adjustment is simple. The working parts are accessible. The nozzles throw a smooth stream. Nozzles and all integral parts bear the Buckeye unconditional guarantee.
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Membership Plan

Volunteer Firemen's Section, National Fire Protection Association

WHERE 20 or more firemen in a volunteer company or department affiliate with the Volunteer Firemen's Section the cost is 50 cents a year *per man*. Each fireman will receive one copy of VOLUNTEER FIREMEN, the monthly journal of the Volunteer Firemen's Section, mailed regularly to his home address. The company or department automatically becomes a member of the National Fire Protection Association and is entitled to full privileges of membership. All the literature regularly issued to N.F.P.A. members is mailed to headquarters of the company or department.

Membership may be applied for by one member of the company or department collecting 50 cents for each of the 20 or more members and making a single remittance for the group, or the company or department may take a membership for its men and make a single remittance from the company or department treasury.

Companies With Less Than 20 Members

Because of the large amount of material mailed to members, not less than $10.00 can be accepted from any company or department for membership dues. In the case of companies or departments with less than twenty men this means that the cost divided among them will be slightly higher per man. Of course, some such companies or departments may prefer to make a single remittance of $10.00 from the company or department treasury. In other cases a few interested citizens, not members of the company or department, may be glad to contribute 50 cents apiece to make up the required minimum of twenty, so that the members may secure the rate of 50 cents per man.

These companies or departments have full privileges of N.F.P.A. membership as above, and each member receives the monthly magazine, VOLUNTEER FIREMEN, at his home.

By All Means Read These New

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. . . Be Informed Before You Buy!

Progress! During the last two years our line of Barton Fire Pumps has undergone intensive development. It has been broadened out both ways. We have perfected larger pumps to meet the requirements of the larger centers, and we have designed smaller pumps suitable for the village or rural community with but a few hundred dollars to invest.

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Records show that more than nine out of every ten accidents are sideswipes. Head-on accidents are the exception; sides-swipes the rule. A FRONT-MOUNTED BARTON FIRE PUMP IS OUT OF THE DANGER ZONE. With thousands of Barton Pumps in service, we know of only one ever damaged by collision. FRONT-MOUNTING = CONVENIENCE + ECONOMY + GREATER SAFETY.

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☐ (No. 75) Barton 350, 400, 500 and 600-gallon, Gear Drive Centrifugal Fire Pumps—$600 and up (Underwriters' Tested)

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